

The Intersection of Drug Use and Criminal Behavior: Results From the National Household Survey on Drug Abuse

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In 1991, questions on involvement in criminal behavior and being arrested and booked for a crime were added to the National Household Survey on Drug Abuse (NHSDA) to ascertain the relationship between drug use and criminal behavior. Analysis shows that drug use is a strong correlate of being booked for a criminal offense, but age is the more important correlate of criminal involvement. There were few differences in models predicting violent as opposed to property crime, although minority status was a more important predictor of violent crime, and poverty was a more important predictor of property crime. Cocaine use was the most important covariate of being booked for a crime in large metropolitan areas that were oversampled in the 1991 NHSDA.

The National Household Survey on Drug Abuse (NHSDA) has tracked patterns of licit and illicit drug use among the general household population since 1971. This article provides a broad overview of the survey, highlighting its methodology and results. In 1991, questions were added to the NHSDA on both self-reported criminal involvement and criminal behavior that resulted in being arrested and formally booked for a crime. This article examines the relationship between licit and illicit drug use and criminal behavior in the general population. Rates of criminal behavior derived from the NHSDA are presented, and the relationship between criminal behavior and drug use is examined using crosstabulations and logistic regression analysis. The article concludes with a discussion of the results.

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DRUG USE AND CRIMINAL BEHAVIOR

Research has consistently demonstrated a high degree of correlation between drug use and criminal behaviors (Nurco, Hanlon, Kinlock, and Duszynski 1989; Speckart and Anglin 1985; Hunt, Lipton, and Spunt 1984; Inciardi 1986; Wish and Johnson 1986). Studies show high levels of drug use among incarcerated populations (Innes 1988; Harlow 1991). Likewise, studies of narcotic addicts (Nurco, Hanlon, Kinlock, and Duszynski 1988; Anglin and Speckart 1988) and heavy cocaine users (Johnson, Elmoghaazy, and Dunlap 1990; Inciardi and Pottieger 1991; Gfroerer and Brodsky forthcoming) have shown that these individuals are also frequently involved in criminal offenses. However, research shows that the principal criminal activity of many drug addicts is selling drugs. Only a small number are actively engaged in nondrug crimes (i.e., robbery, burglary, shoplifting, other larcenies, prostitution, etc.) on a regular basis (Ball, Shaffer, and Nurco 1982; Johnson et al. 1990). There is no firm evidence of a causal relationship between drug use and crime. The general conclusion reached by a number of researchers is that deviant behaviors such as drug use and criminal offenses occur within the context of a general deviance syndrome (Osgood, Johnston, O'Malley, and Bachman 1988; Elliott, Huizinga, and Ageton 1985; Jessor, Chase, and Donovan 1980; Kaplan, Martin, Johnston, and Robbins 1986; Akers 1984). Those likely to engage in one form of deviant behavior (i.e., crime) are also likely to engage in other forms of deviant behavior (i.e., drug use).

Another explanation for the correlation between drug use and crime, particularly property crime, is the economic motivation due to the high cost of illicit drugs. The relationship must also be considered in the context of the pharmacological properties of the drug. For example, there is virtually no research indicating that cannabis use leads to crime for economic gain. Likewise alcohol, because of its legality and low cost, also does not lead to crime for economic gain. But there is evidence that opiate use leads to crime for economic gain. (There is also some evidence that cocaine use leads to crime for economic gain.) Research shows that narcotic addicts greatly increase their level of criminal offending during periods of elevated narcotic use (Nurco et al. 1988; Anglin and Speckart 1988). McGlothlin (1978) has shown that income from property crime escalates with increasing narcotic use. Research further indicates that nonproperty crime does not covary with levels of narcotic use, suggesting that the relationship between narcotic use and crime is attributable to economic motivations (Anglin and Speckart 1988; Watters, Reinerman, and Fagan 1985).

The relationship between drug use and violent crime has not been well researched. However, the available research suggests that drug addicts commit few violent offenses (Hunt et al. 1984; Ball et al. 1982). Goldstein, Brownstein, and Ryan (1992 [this issue]) show that the vast majority of murders linked to drugs are due to systemic violence engendered by the drug trade. They propose that violence is inherent to the drug distribution system. For example, a person selling drugs may be assaulted or even killed when he tries to shortchange his customer or fails to pay his supplier. They conclude that drug users are more likely to finance their drug use by working in the drug distribution business than by engaging in violent predatory theft (Goldstein, Brownstein, Ryan, and Bellucci 1989), suggesting that violence is peripherally related to drug abuse. There appears to be a hierarchy of criminal activity among drug abusers, with drug dealing as the preferred means of support, followed by property crimes and, infrequently, violent acts (Harrison forthcoming).

Studies of incarcerated populations have shown high rates of drug use among criminal offenders. For example, in 18 of the 23 cities included in the Drug Use Forecasting Study in 1990, 50% or more of those who had been recently booked on criminal charges tested positive for some illicit drug. Cocaine, by a large margin, was the drug that booked arrestees were most likely to test positive for, followed by cannabis and opiates (National Institute of Justice [NIJ] 1991). A national study of jail inmates in 1989 found that 30% of jail inmates reported daily illicit drug use in the month prior to committing the offense that led to their incarceration. Over a quarter (27%) of the convicted inmates reported they were under the influence of an illegal drug when they committed the offense leading to their incarceration (Harlow 1991).

MEASURING DRUG USE AND CRIME IN THE UNITED STATES

Although there is comparatively good information on drug use among incarcerated criminals, and some information on criminal offending among drug abusers, little is known about the relationship between drug use and criminal behavior among the general population. There is information on both drug use and crime rates at the national level, but not on the intersection of these behaviors.

The National Household Survey on Drug Abuse (NHSDA), sponsored by the National Institute on Drug Abuse (NIDA), has been conducted periodically since 1971 to provide estimates of the prevalence, consequences, and patterns of drug use and abuse in the United States. The National Crime

Survey (NCS), which measures criminal victimization, has been conducted annually by the Bureau of Justice Statistics (BJS) since 1973 (see BJS 1992a for a more complete description of the NCS). The respondent universe for both the 1991 NHSDA and NCS was the noninstitutionalized civilian population age 12 years and older in the United States. This includes residents of households, noninstitutional group quarters (e.g., shelters, rooming houses, dormitories), and residents of civilian housing on military bases. Persons excluded from the universe include those with no fixed address, active military personnel, and residents of institutional quarters, such as jails and hospitals. The 1991 sample size for the NHSDA was 32,594 respondents. The NCS included a sample of about 95,000 persons in 1990.

The NHSDA sample design incorporates varying selection probabilities that result in oversampling of Blacks, Hispanics, and young people. Special samples of about 2,500 respondents were also selected in each of six large metropolitan areas in 1991 (Chicago, Denver, Los Angeles, Miami, New York, and Washington, D.C.). Through intensive callback procedures, response rates in the NHSDA have been uniformly high. The 1991 screening response rate was 96.5% and the interview rate was 84.2%, for a total response rate of 81.3%.

The NHSDA interview takes about an hour to complete and employs procedures to maximize honest reporting of illicit drug use. Data are collected on the recency and frequency of use of various licit and illicit drugs, demographic characteristics, problems associated with drug use, and drug abuse treatment experience. Respondents use self-administered answer sheets for all drug-related questions so that responses are not revealed to interviewers. Respondents place completed answer sheets in an envelope with no name or address information. The envelope is sealed at the end of the interview, and respondents are invited to accompany the interviewer to the nearest mailbox to mail it.

In 1991, the NHSDA added questions about criminal behavior. Using a self-administered answer sheet, respondents were asked whether they had committed any of a number of deviant activities within the past year. The series of questions is adapted from a scale that has frequently been used in surveys to measure delinquency, and yields information on a number of illegal criminal behaviors (Osgood, Johnston, O'Malley, and Bachman 1989). Respondents were also asked if they had been booked during the past year for any of a number of offenses. The offenses include the Federal Bureau of Investigation's (FBI) Crime Index offenses (murder/homicide, forcible rape, robbery, aggravated assault, larceny or theft, motor vehicle theft, burglary, and arson), as well as a few individual offenses that have a high rate of arrest such as driving under the influence (DUI).

TRENDS IN DRUG USE AND CRIMINAL BEHAVIOR

The analysis reported in this article is based on a preliminary 1991 NHSDA data file. Measures of drug use and criminal behavior clearly show that these behaviors are more prevalent among young adults and youth. The NHSDA typically provides estimates of drug use prevalence among three age groups: youth (age 12-17), young adults (age 18-25), and older adults (age 26 and older). The highest rates of illicit drug use are found among young adults, followed by youth. The highest rates of alcohol and tobacco use are also found among young adults, but older adults have higher rates of use of the licit drugs than youth. Criminal victimization, as measured by the NCS, shows the highest rates of criminal victimization among 16-24 year olds, followed by those age 12-15. Arrests for serious crimes are also highest among youth and young adults (BJS 1988).

The trends in past-year use for several of the illicit drugs and alcohol among young adults age 18-25 are shown in Figure 1. Prevalence rates for both alcohol and illicit drugs increased during the 1970s, reaching a peak in 1979 and decreasing thereafter. Trends for 12-17 year olds show similar peaks in 1979. However, among older adults, marijuana and cocaine prevalence continued to increase after 1979, reaching the highest levels in 1982 (marijuana) and 1985 (cocaine).

Criminal victimization shows a trend somewhat similar to the trend in drug use among 18-25 year olds (Figure 2). Household crimes, personal theft, and violent crimes all reached their high points around the turn of the decade, although the trend in violent crime shows less variation and a gradual increase since 1986. As noted earlier, research suggests less correlation between violent crimes and drug use than between property crimes and drug use.

The similarity in trends between drug use and property crimes evident in these surveys may be entirely coincidental, but it is likely that it is related to the maturing of the baby boom generation. During the late 1970s and early 1980s, the last of this cohort reached young adulthood, the prime age for involvement in criminal behavior, illicit drug use, and a number of other deviant behaviors (Easterlin 1978). Rates of drug use have been found to increase with age until the early 20s, then decrease thereafter (O'Malley, Bachman, and Johnston 1988; MDA 1991). Involvement in illegal behavior has also been found to increase with age, with rates peaking at about age 17 and decreasing by two thirds by age 23 (Osgood et al. 1989). Data from the FBI's 1990 Uniform Crime Report show the highest arrest rates in the 18-20 year old age group (FBI 1991). These data suggest that crime rates are greatly affected by the relative proportion of the population in the late teens to early

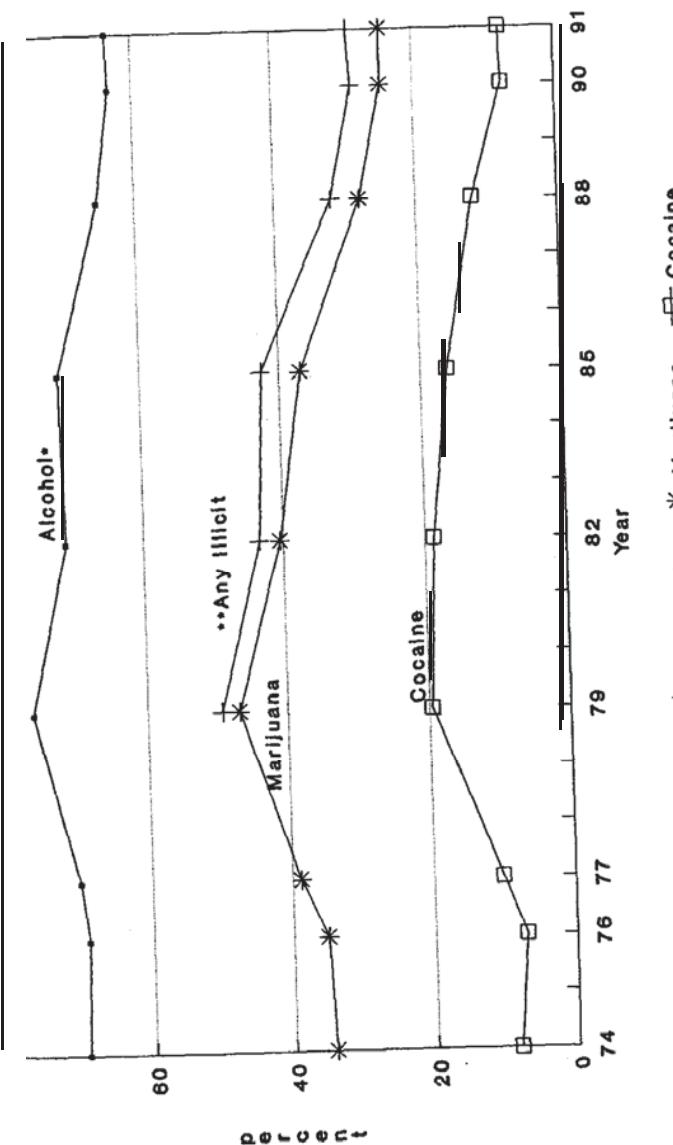


Figure 1: Trends in Past Year Drug Use Among Young Adults 18-25 Years Old: 1974-91

SOURCE: NIDA, National Household Survey on Drug Abuse, 1991.

*Past month alcohol use.

**Composite measure of any illicit only available since 1979.

20s (Osgood et al. 1989). The data also indicate that involvement in deviant activities is highly related to the aging process.

*1991 NHSDA PROVISIONAL ESTIMATES
OF DRUG USE AND CRIMINAL BEHAVIOR*

Provisional data from the 1991 NHSDA indicate that 37.1% of the general population age 12 and older reported at least one occasion of illicit drug use in their lifetime; with 12.8% reporting some use in the past year and 6.2% some use in the past month. The most prevalent of the illicit drugs was cannabis, with 33.4% lifetime prevalence, 9.6% past-year prevalence, and 4.8% past-month prevalence. The nonmedical use of a psychotherapeutic drug was reported by 12.1% of the population (lifetime prevalence). About 4.5% had used a psychotherapeutic drug for other than medical reasons in the past year, and 1.5% reported past-month use. The lifetime prevalence rate for cocaine was 11.7%, with annual prevalence at 3.1%, and past-month prevalence at 0.9%. Alcohol and tobacco were used at much higher rates than any of the illicit drugs. About half the population had used alcohol in the past month, and 4.6% had been drunk. Nearly three quarters (73%) had tried cigarettes in their lifetime, and over a quarter (26.7%) reported smoking in the past month. Higher rates of illicit drug use are found in Metropolitan Statistical Areas (MSAs), which are generally comprised of a very large city and the surrounding community. Other subgroup differences show males reporting higher rates of illicit drug use than females, and Hispanics reporting lower rates of drug use than either Whites or Blacks.

The provisional population estimates (12 years of age and older) and percentages of the population reporting engaging in the various delinquent/criminal behaviors during the past year are shown in Table 1. The most frequently reported crime was DUI, which 9.6% (or 19.4 million) of the population self-reported. Involvement in a physical fight was reported by 6.7% of the population or 13.7 million people. Shoplifting or stealing from a store was reported by 2.9% of the population, and 2.8% reported taking money or property (other than from a store).

The population estimates and prevalence rates for being arrested and formally booked for various *offenses* within the past year are shown in Table 2. Less than 1% of the population report being booked for any of the offenses in the past year. This is much lower than the proportion who disclose they **have engaged** in illegal activities that potentially could have resulted in their being booked. Consistent with FBI arrest data and the delinquency items, respondents most frequently report being booked for DUT. More people

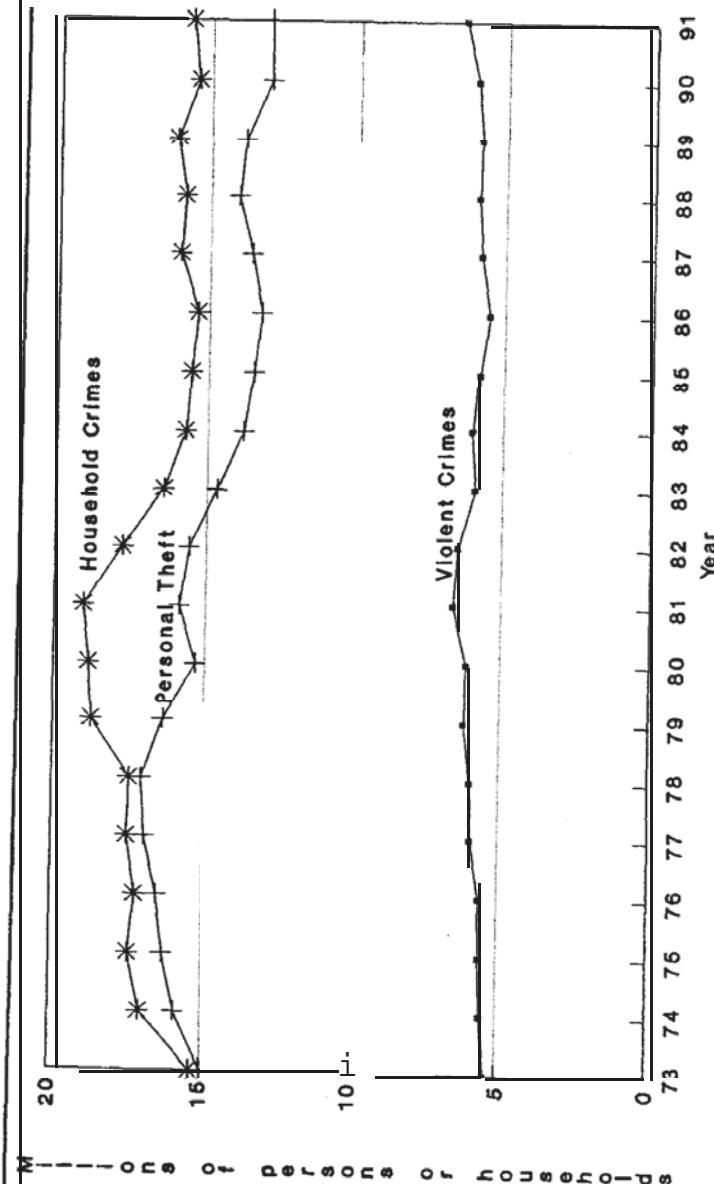


Figure 2: Trends in Victimization Levels 1973-91
SOURCE: BJS, National Crime Survey
*Does not include murder or kidnapping.

TABLE 1: Past Year Delinquency/Criminal Behavior Among U.S. Population Age 12 and Older: 1991 Provisional Data

	Percentage	Population	Estimate
Any violent crime	7.0	14,198,300	
Used weapon or force to get money from a person	0.3	574,242	
Physical fight or hit someone	6.7	13,671,200	
Hurt someone badly enough to need bandages or doctor	1.8	3,678,800	
Used weapon to get something from a person	0.3	705,459	
Any property crime	5.8	11,818,900	
Steal from a store	2.9	5,846,260	
Take money or property (other than from a store)	2.8	5,728,250	
Purposely damaged or destroyed property	2.3	4,744,430	
Motor vehicle theft	0.4	801,875	
Breaking and entering	0.5	1,086,080	
Other			
Drive under the influence	9.6	19,446,900	
Sold drugs	0.9	1,831,710	
Anything else to get in trouble with police	3.3	6,686,060	

report being booked for a property offense than a violent offense, which is consistent with FBI arrest data but different from the pattern observed for self-reported criminal behavior.

The rates of drug use and criminal behavior by age group are shown in Table 3. Consistent with previous research and other data sources, the 1991 NHSDA shows that rates of drug use and arrest increase with age generally peaking in the late teens to early 20s and then decreasing steadily. The composite measures of involvement in property crime and violence have the highest rates among youth 15-17 years of age, and the highest rate of arrest for a property crime is found among 15-17 year olds. (Property and violence are broad categories encompassing several behaviors. See Table 1 for the behaviors comprising **property** and violence, and Table 2 for the offenses included under *booked* violence and *booked* **property**.)

THE CORRELATION BETWEEN DRUG USE AND CRIMINAL BEHAVIOR

The rates of delinquency/criminal behavior and being booked for criminal offending by various categories of alcohol and drug use are shown in Tables 4

TABLE 2: Past Year Arrested and Booked Among U.S. Population Age 12 and Older: 1991 Provisional Data

	Percentage	Population	Estimate
Booked for any violent crime	0.4	910,055	
Murder, homicide a	0.0	12,077	
Forcible rape a	0.0	3,264	
Robbery a	0.0	99,871	
Aggravated assault a	0.2	335,638	
Other assault	0.3	525,843	
Booked for any property crime	0.7	1,457,730	
Larceny or theft a	0.3	684,925	
Other property offense (fraud, vandalism)	0.2	321,294	
Motor vehicle theft a	0.1	164,789	
Burglary or breaking and entering=	0.2	438,848	
Other			
Arson a	0.0	23,254	
Drive under the influence	0.9	1,845,900	
Drug sale/possession	0.2	474,648	
Drunkenness	0.4	778,424	
Other	0.4	896,923	

a. FBI Crime Index Offenses.

and 5. The analysis is restricted to those 18-49 years old. Those over 50 are excluded because there are precipitous drops in alcohol use, drug use, and criminal behavior after age 50. Youth age 12-17 years are not included because there is a different pattern observed with respect to both drug use and criminal behavior for this age group.

In general, rates of criminal behavior are higher for populations more heavily involved in drug use. The lowest rates of criminal behavior are found among those who did not use alcohol or illicit drugs during the past year. Rates are higher among those who report getting drunk monthly, generally even higher for users of both alcohol and marijuana (with no use of any other illicit drugs), and substantially higher for persons who report using alcohol, marijuana, and cocaine in the past year.

The relationship between drug use and criminal behavior was further investigated using logistic regression models that controlled for confounding factors such as age, which could account for the apparent correlations between drug use and criminal behavior seen in Tables 4 and 5. Four dependent variables were used for these models: involvement in property crime, involvement in violent crime, being booked for a property offense, and being booked for a violent offense in the past year. For each dependent

TABLE 3: Drug Use and Criminal Behavior by Age Group Among U.S. Population Age 12 and Older (percentage reporting behavior in past year): 1991 Provisional Data

	Age Group											All ages 12+
	1 2 - 1 4	1 5 - 1 7	1 8 - 2 1	2 2 - 2 5	2 6 - 2 9	3 0 - 3 4	3 5 - 4 9	5 0 +				
Alcohol use	25.0	55.4	82.3	83.4	80.8	60.9	75.2	56.4				68.1
Drunk												
monthly	0.7	5.0	8.2	6.6	8.2	5.0	5.5	2.4				4.6
Cannabis use	3.4	16.7	26.5	22.4	15.7	13.6	7.9	1.1				9.6
Cocaine use	0.6	2.5	6.7	6.6	5.9	4.5	2.8	0.6				3.1
Violence	27.5	31.2	20.4	10.7	5.8	4.1	3.2	0.3				7.0
Property Booked	18.8	27.5	18.6	9.0	5.4	3.5	2.2	0.5				5.8
violence	0.6	1.0	1.7	1	0	0.7	0.4	0.3				0.4
Booked												
property	1.0	2.9	2.7	1.8	0.8	0.4	0.3	0.1				0.7

variable, two separate models were run, one for the portion of the sample in the six oversampled metropolitan areas in the 1991 NHSDA and one for the remainder of the national sample. This was done because the sample design (and probabilities of selection) were substantially different in the six oversampled areas when compared to the rest of the sample. This strategy also allowed the inclusion of a variable indicating whether residents in the six cities lived in low socioeconomic (SES) areas, based on the 1980 census values of the sample segments' mean housing values and rents. Except for the SES variable, all eight models included the same set of independent variables. All models were restricted to 18-49 year olds.

Results of the logistic regression modeling are shown in Tables 6 and 7. The adjusted odds ratio for each variable in the model is reported. The odds ratios reflect the likelihood of a positive response on the dependent variable relative to that for the defined reference group, after controlling for all the other variables included in the model. Adjusted odds ratios greater than 1.0 indicate an increased likelihood of criminal behavior, and those less than 1.0 indicate a decreased likelihood. The rank correlation statistic *c* provides a measure of the overall significance of the model, which ranges from 0.5 (no predictive accuracy beyond chance alone) to 1.0 (perfect predictive accuracy) and is loosely analogous to the *R*² statistic in ordinary linear regression. All of the models provide a reasonably good fit.

Even after controlling for other variables such as age, race, income, education, and marital status, all three drug-use indicators (getting drunk

TABLE 4: Past Year Delinquency/Criminal Behavior by Alcohol and Drug Use Among Those Age 18-49 (percentage committing crime): 1991 Provisional Data

	None (N = 4,801)	Alcohol Only (N = 11,492)	Drunk Monthly ^a (N = 1,259)	Alcohol and Cannabis Only (N = 1,786)	Cannabis, and Cocaine (N = 890)	26.1
Any violent crime	2.7	4.8	6.3	14.6		
Used weapon or force to get money	0.0	0.1	0.6	0.4		
from a person	2.5	4.7	11.5	14.0		
Physical fight or hit someone						
Hurt someone badly enough to need bandages or doctor	0.7	1.1	3.2	4.7		
Used weapon to get something from a person	0.2	0.1	0.3	1.3		
Any property crime	1.7	3.8	8.0	13.0		
Steal from a store	0.5	1.5	3.3	5.8		
Steal money or property purposely damaged or destroyed	1.1	1.8	3.3	6.5		
property						
Motor vehicle theft	0.5	1.1	4.2	4.7		
Breaking and entering	0.1	0.2	0.1	0.5		
Other	0.1	12.3	33.3	30.8		
Driving under the influence	0.0	0.1	0.2	2.2		
Sold drugs		2.5	4.6	9.1		
Anything else to get in trouble with police	1.4					

a. Drunk monthly in past year, but no illicit drug use.

b. Low precision, no estimate reported.

TABLE 5: Past Year Arrested and Booked by Alcohol and Drug Use Among Those Age 18-49 (percentage booked for crime): 1991 Provisional Data

	None (N = 4,801)	Alcohol Only (N = 11,492)	Drunk Monthly ^a (N = 1,259)	Alcohol and Cannabis Only (N = 1,786)	Alcohol, Cannabis, and Cocaine (N = 890)
Booked for any violent crime	0.4	0.3	1.3	0.9	3.9
Murder, homicide	b	b	b	b	b
Forcible rape	b	b	b	b	b
Robbery	0.0	0.0	0.3	b	b
Aggravated assault	0.2	0.1	0.1	0.3	0.2
Other assault	0.2	0.2	0.2	0.6	2.0
Booked for any property crime	0.2	0.4	0.4	1.9	2.4
Larceny or theft	0.1	0.1	0.1	1.0	6.3
Other property offenses (fraud, vandalism)	0.1	b	b	0.1	3.2
Motor vehicle theft	b	0.0	0.0	0.5	1.4
Burglary or breaking and entering	0.1	0.1	0.3	0.3	0.6
Other	b	b	b	b	b
Driving under the influence	0.1	0.9	3.6	2.6	10.5
Drug sales/possession	0.0	0.1	0.2	0.6	4.1
Drunkenness	0.1	0.2	1.2	1.4	2.4
Arson	b	b	b	b	b
Other	b	b	b	b	b

a. Urban community in past year, but no illi

b. Low precision, no estimate reported.

TABLE 6: Logistic Regression Results for Models of Violent Crime Among Those Age 18-49 (adjusted odds ratio): 1991 Provisional Data

	Six Major U.S. Cities ^a		U.S. Excluding Six Major U.S. Cities	
	Violence	Booked Violence	Violence	Booked violence
Drunk monthly (during past year)	221***	323***	214***	226***
Cannabis (past year)	225***	299***	206***	187***
Cocaine (past year)	254***	6.18***	1.60***	250***
Age 18-21	4.93***	2.11*	5.80-	2.17**
Age 22-25 ^b	242***	1.43	2.9-	1.70
Age 26-29 ^b	1.77***	1.16	1.71-	1.20
Age 30-34 ^b	1.69***	.97	1.42*	1.30
Male	1.96***	1.76**	2.19-	245***
Black ^c	1.55****	2.79-	1.52***	2.70***
Hispanic ^d	.79*	1.89*	.81**	1.63*
Unmarried	1.11	.78	1.54-	225***
High school dropout	1.46***	1.44	1.52***	2.60***
Poverty (household)	1.13	.90	.98	.70
Low SES (area) ^e	.84*	1.36		
Predictive accuracy of full model (c)	.79	.87	.80	.84

a. Includes Chicago, Denver, Los Angeles, Miami, New York, and Washington, D.C. MSAs.

b. The reference group is the 35-49 year old age group.

c. The reference group is non-Black, non-Hispanic.

d. 1990 poverty level as calculated by the U.S. Census Bureau based on number of residents in household and total family income.

e. Defined as the third of the urbanized area segments with the lowest median housing value and rent (based on 1980 U.S. Census).

*p<.10; **p<.05; ***p<.01; ****p<.001.

monthly, using marijuana in the past year, and using cocaine in the past year) were significantly related to criminal behavior. This result was found in all eight models, and odds ratios were generally higher for the drug use variables than for demographic and SES variables. Cocaine use was the strongest predictor of being booked for a violent crime or a property crime in the six cities, with odds ratios of 6.18 and 4.92, respectively. However, in all other models the three drug use variables were about equally as important predictors of criminal behavior and being booked, with odds ratios ranging from 1.60 to 3.23.

TABLE 7: Logistic Regression Results for Models of Property Crime Among Those Age 18-49 (adjusted odds ratio): 1991 Provisional Data

	Six Major U.S. Cities ^a		U.S. Excluding Six Major U.S. Cities	
	Property	Booked Property	Property	Booked Property
Drunk monthly (during past year)	216***	1.62*	1.64 -	1.72**
Cannabis (past year)	280***	225***	2.80 -	306***
Cocaine (past year)	2.91 -	792***	184***	284***
Age 18-21 ^b	4.80 -	489***	5.44 -	1.94**
Age 22-25 ^b	2.22 -	1.99	245***	1.51
Age 26-29 ^b	1.30	1.75	1.73***	64
Age 30-34 ^b	1.52	2.32*	1.48*	.73
Male	161***	261***	1.79***	1.60**
Black ^c	.98	1.33	.93	1.71***
Hispanic ^c	.77**	.59	.67 -	.91
Unmarried	1.09	.94	1.58***	
High school dropout	.92	1.77**	.91	1.37***
Poverty (household) ^d	140***	1.73**	1.25***	
Low SES (area) ^e	.91	1.31		.98
Predictive accuracy of full model (c)				
	.79	.87	.80	.80

a. Includes Chicago, Denver, Los Angeles, Miami, New York, and Washington, D.C. MSAs.

b. The reference group is the 35-49 year old age group.

c. The reference group is non-Black, non-Hispanic.

d. 1990 poverty level as calculated by the U.S. Census Bureau based on number of residents in household and total family income.

e. Defined as the third of the urbanized area segments with the lowest median housing value and rent (based on 1980 U.S. Census).

*p<.10; **p<.05; ***p<.01; ****p<.001.

Consistent with the data in Table 3 and prior research, age is highly significant in several of the models, and the pattern of odds ratios indicates a decreasing rate of criminal behavior with increasing age. However, the relationship between age and offending was different for involvement in criminal behavior and being booked for criminal behavior. In general, age (being 18-21 years old) was the strongest predictor of involvement in violent and property crime, whereas cocaine use was the strongest predictor of being booked for these crimes. The only exception was in the six-city property crime model, in which being 18-21 (relative to being 35-49) years old was equally as important as cocaine use in being booked for a property crime. The 18-21 year old age group was the only age group that was significantly

related to being booked for a violent or property crime, once other variables were controlled.

The demographic variables were all generally significant. Gender was a significant predictor in all eight models, indicating that males were much more likely than females to be involved in criminal behavior. Blacks were more likely to report engaging in, as well as being booked for, violent crime. However, being Black was a stronger predictor of being booked for a violent crime than it was for actually committing a violent crime. Blacks were not more likely to commit property crimes, but outside the six cities, they were more likely to be booked for property crimes. Hispanics were less likely to be involved in property crime, but no less likely to be booked for property crime. Hispanics were also somewhat less likely to engage in violent crime, but somewhat more likely to be booked for violent crime. Marital status was not significant in any of the six-city models, but it was significant in three of the non-six-city models.

The SES level of the sampled segment (i.e., block) was generally not significant in the four six-city models. (This measure, classifying segments according to their average housing values and rents based on 1980 Census data, is an indicator of the SES of the neighborhood in which the respondent resides.) However, analysis showed that living in a household below the 1990 poverty level was generally a significant correlate of involvement in property crime, but not violent crime.

Being a high school dropout was not significant in the models of involvement in property crime, but it was significantly related to being booked for a property crime. Dropouts were significantly more likely to report engaging in violent crime, but they were only more likely to be booked for a violent crime in the non-six-city model.

Further analysis of the relationship between drug use and crime was conducted, including criminal behavior as an independent variable in logistic regression models. When involvement in property crimes was added as an independent variable in the violence and booked-violence models, it became the most important predictor (data not shown), indicating a high degree of correlation between involvement in property and violent crimes. In general, the other variables found significant in these models were the same ones that were significant in models without property crime as a predictor (see Table 6), but the size of the odds ratios for drug use and age were reduced. When involvement in violent crime was added as an independent variable to the property and booked-property models, it also became the most important predictor. Significant variables shown in Table 7 generally remained significant in these models as well, with similar reductions in odds ratios for age and drug use variables. These results indicate that the criminal behavior

variables are even more closely related to each other than they are to drug use. However, in the booked-violence and booked-property models, the odds ratios for cocaine use were similar to the odds ratios for the independent crime variable added to these models.

DISCUSSION

The results of these analyses based on the 1991 NHSDA preliminary file show that drug use in general, and cocaine use in particular, are the most important correlates of being booked for property and violent crimes. Drug users (including those getting drunk at least once a month) are more likely to be booked for offenses than nondrug users, especially in major cities. Drug users are also more likely to engage in property and violent crime, but age is perhaps an even stronger correlate of involvement in crime. Age (being 18-21) is only as strong a predictor as cocaine use for being booked for a property crime in the six cities. These findings suggest that although age is a strong correlate of engaging in criminal activity, with an inverse relationship from the early 20s on, drug use is the stronger correlate of actually being booked for a criminal offense.

This does not mean, however, that drug use causes crime. It would likewise be inappropriate to say that age causes involvement in property and violent crime. What we can say is that drug use and criminal behavior are highly correlated. We can also say that age is highly correlated with criminal behavior, but it is generally not as highly correlated with being booked and charged for a criminal offense **once** drug use and other demographic and SES variables are controlled. Drug use, and especially cocaine use, is highly related to being booked and charged for an offense, and this is more true in the six cities than in the remainder of the United States.

Perhaps one of the more interesting findings is the robustness of the drug use-criminal behavior relationship. Whereas previous research demonstrates the relationship among heavy drug users, narcotic addicts, and incarcerated populations, our analysis shows that the relationship is strong even in the general population, based on those who report the activity at least once in the past year. Also, separate logistic regression models found similar results in both the six major cities and in the remainder of the United States.

Drug use and criminal behavior are also activities that decline with age. The analyses confirm the "maturing out" of criminal behavior and although no controls were introduced (Table 3), drug use also decreases with age. Both drug use and criminal behavior tend to peak in the general population in the late teens to early 20s.

Previous research showing that drug abusers are more likely to engage in property crimes than in violent crimes is not supported by our analysis. We found drug use to be a strong correlate of both violent and property crime in the general population. Furthermore, the use of cannabis, getting drunk monthly, and the use of cocaine were equally as important in predicting criminal involvement. These results lend support to the general deviance theory.

Some interesting patterns emerged in the minority status and socioeconomic variables in the logistic regression models. Being Black was a risk factor for involvement in violent crime but not property crime. Similarly, high school dropouts were more likely to be involved in violent crime but not property crime. On the other hand, poverty status was a significant predictor of involvement in property crime but not violent crime. Living in a low income area did not predict involvement in crime. Hispanics were less likely than Whites to be involved in property and violent crime. In the booked-violence and booked-property models, however, odds ratios for minority status and high school dropout variables were larger than in the corresponding models of involvement in violence and property crime. In these models, Blacks were found to be more likely than Whites to be booked for property crimes. Hispanics were found to be more likely than Whites to be booked for violent crimes. Because our outcome variables were composite measures that did not account for the specific types of crimes committed, this finding is difficult to explain. However, it could be an indication of differential arrest practices. Additional research is needed to explain the relationship between minority status and being booked for violent and property crimes.

Based on our analysis, the NHSDA **does** appear to have adequately sampled persons involved with the criminal justice system. FBI data on arrests provide some indication of the accuracy of NHSDA estimates of criminal behavior. According to the 1991 NHSDA preliminary data file, the number of persons booked for a FBI Index Crime during the past year was 1.05 million. The number of bookings cannot be obtained from the NHSDA because persons may be arrested more than once for the same charge. However, by counting respondents multiple times when they report multiple types of FBI Index Crimes, an estimate of arrests can be derived from the NHSDA. Although it does not account for multiple arrests for the same charge, this calculation yields an estimate of 1.76 million, about 60% of the 2.92 million arrests estimated by the FBI in 1990. The NHSDA appears to get better coverage of persons arrested for some offenses than for others. Estimates of the number of people booked for DUI, drunkenness, burglary, and motor vehicle theft in the NHSDA are similar to the FBI estimates of arrests for these offenses. For some of the less frequently committed crimes such as murder/homicide, forcible rape, and arson, there is **Exhibit C**.

At least part of the difference in the NHSDA and FBI estimates is due to individuals being incarcerated for their crimes. According to the BJS, 32% of felony offenders (in large cities) were incarcerated for their crime (1991). Federal courts report that 63% of charged arrestees are released (meaning 37% are detained), and 70% are released sometime prior to trial (BJS 1992b). Therefore, the NHSDA should only be getting a proportion of the arrestees who have been booked and charged for offenses, because the survey does not include those who are incarcerated (for more than a few weeks). Taking these factors into consideration, the NHSDA estimate of 1.76 million for the sum of the FBI Index Crimes appears to be consistent with the FBI estimates on arrests, indicating that undercoverage and underreporting bias are small in the NHSDA.

There appears to be some underestimating of individuals on probation or parole in the NHSDA. As with the other criminal justice-related questions, respondents are asked to report on the past year; that is, whether they have been on probation or parole at any time in the past year. Adding the point-prevalence estimates for probationers and parolees on January 1, 1990, to the number of entries in 1990 (Jankowski 1991) shows that the NHSDA estimates are only about 56% of the probationers and 60% of the parolees. However, some proportion of probationers and parolees are rearrested and incarcerated and therefore would not be eligible for the NHSDA sample. Of those leaving probation in 1990 whose subsequent whereabouts were known, 19% were reincarcerated and 3.3% were discharged to custody, detainer, or warrant. Half of parolees were reincarcerated, and 1.1% were discharged to detainer or warrant (BJS personal communication).

Therefore, although incarcerated criminals are excluded from the NHSDA, those engaging in criminal behavior and those who have been booked on criminal charges are not entirely missed. There may be a small amount of underreporting and undercoverage, but the estimates from the NHSDA show reasonably good coverage of unincarcerated persons involved in the criminal justice system. Estimates of drug use in the population based on the assumption that the NHSDA completely misses frequent drug users in the criminal population are therefore subject to substantial bias (cf. Wish 1990-1991; U.S. Senate Judiciary Committee 1990).

Estimates of drug use from the NHSDA may also be subject to bias because respondents may not accurately report incriminating or deviant behaviors, and undercoverage of drug-using populations may occur. For drug abuse data, there are no good independent criterion data that can be used to validate the NHSDA estimates. Urine tests are most frequently used to validate self-reported drug use, but they have a narrow window of detectability: generally less than 72 hours. Even so, in a review of self-report validation

studies primarily using urinalysis, Mieczkowski (1990) found that most studies concluded drug use is accurately self-reported 70% to 90% or more of the time. Many of the respondents included in these types of studies were drawn from criminal justice populations (Mieczkowski 1990). These individuals may have greater reason to conceal their drug use than members of the general population, so rates of concealment may be higher than in the general population. Furthermore, a methodological study looking at the difference between interviewer-administered and self-administered questionnaire strategies on the NHSDA found a significantly higher rate of drug use was reported under the self- versus interviewer-administered conditions as drug use became more proximal, i.e., little impact on lifetime rates but more on past year, and even more on past month (Turner and Lessler forthcoming). This suggests that rates of accurate reporting of drug use in the past 72 hours as validated by urinalysis may not be generalizable to drug use measured in the past month, past year, or lifetime. Because the NHSDA uses methods to maximize confidentiality and anonymity and our analysis was restricted to drug use in the past year, there is ample evidence to suggest the results are valid. But this is obviously an area that needs more research.

This article supports the conclusions of prior research showing a high degree of correlation between drug use and criminal behavior. However, analyses show that age is more strongly related to engaging in crime, whereas drug use is more strongly related to being booked for a criminal offense. It may be that drug users engage in more risk taking with regard to their criminal activity, which places them at greater risk for being apprehended and booked. It may also be that upon questioning by police, drug users are more likely to display behavior that results in their being booked. Although the analysis is not definitive, it supports the conclusion reached by a number of researchers that both drug use and criminal behavior are part of a general deviance syndrome, and those likely to engage in one type of deviant behavior are likely to engage in others as well. Knowing that this relationship exists, the question becomes: What can be done to curb deviant adaptations? Prevention/intervention strategies must be targeted to youth, as they are most at risk for involvement in deviant behaviors, but it should also be recognized that youth tend to curb their own involvement in deviant activities as they age (see Greenwood 1992 [this issue]). Strategies to reduce criminal behavior should be differentially targeted to males. Risk factors for violent crime appear to be dropout status and being Black, which provides clues about where to target prevention/intervention strategies. Poverty status is a risk factor for property crime, which also provides an indication of where to target prevention/intervention strategies.

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